Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A method for communicating control information between a line unit and a terminal unit in an optical communication system comprising the steps of:

transmitting, from said terminal, said control information on a selected optical fiber;

receiving and decoding at least some of said control information at a first control unit of said line unit; and

sending said control information from said first control unit to a second control unit within said line unit, whereupon said second control unit decodes said control information and performs a command based on said control information.

2. (original) The method of claim 1, wherein said control information is a command to measure a power associated with a pump laser in said line unit.

3. (original) The method of claim 1, wherein said control information is a command to adjust a current associated with a pump laser in said line unit.

4. (original) The method of claim 1, wherein said control information is a command to measure a signal strength associated with a wavelength division multiplexed data signal at said line unit.

5. (original) The method of claim 1, further comprising the steps of: demodulating, at said line unit, said control information from an envelope of a wavelength division multiplexed data signal; and performing a command associated with said control information.

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6. (original) The method of claim 1, further comprising the steps of:

decoding, at said first control unit, at least a portion of an address associated with said control information; and

broadcasting said control information to a plurality of additional control units within said line unit, said plurality of additional control units including said second control unit.

7. (original) A method for reliably transmitting control information between a line unit and a terminal unit in an optical communication system comprising the steps of:

providing a plurality of communication paths between said line unit and said terminal unit;

selecting one of said plurality of communication paths between said line unit and said terminal unit for use in transmitting said control information;

transmitting said control information using said selected path until a predetermined fault characteristic is detected; and

selecting another of said plurality of communication paths for transmitting said control information after said predetermined fault characteristic is detected.

8. (original) The method of claim 7, wherein each of said plurality of communication paths includes a different optical fiber.

9. (original) The method of claim 7, wherein each of said plurality of communication paths includes a receiver unit for demodulating said control information.

10. (original) The method of claim 7, wherein each of said plurality of control paths includes at least one control unit for decoding said control information and selectively performing an operation associated therewith.

11. (original) The method of claim 10, wherein each of said plurality of control paths includes two control units for decoding said control information and selectively performing said operation associated therewith.

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12. (original) The method of claim 11, wherein said two control units are individually addressable by said terminal unit.

13. (original) The method of claim 10, wherein said operation involves setting a bias current associated with at least one pump laser.

14. (currently amended) A method for reliably transmitting control information between a line unit and a terminal unit in an optical communication system comprising the steps of:

providing a group of devices in said line unit which are controlled based on said control information;

providing at least ~~two~~ first and second control units in said line unit, each of which are connected to said group of devices and each of which can process said control information to control said group of devices; ~~and~~

transmitting said control information, by said terminal, to said second control unit ~~a selected one of said at least two control units~~, wherein said selection of said second control unit ~~one of said at least two control units~~ is based upon an operational status thereof;

receiving and decoding at least some of said control information at said first control unit of said line unit; and

sending said control information from said first control unit to said second control unit within said line unit, whereupon said second control unit decodes said control information and performs a command based on said control information.

15. (original) The method of claim 14, wherein said group of devices is a group of pump lasers which pump an optical data signal transmitted between said terminal unit and said line unit.

16. (original) The method of claim 14, wherein said line unit further comprises a plurality of said group of devices and a corresponding plurality of said at least two control units, said method further comprising the step of:

addressing, by said terminal, a command to control a particular device within one of said groups of devices to a corresponding one of said at least two control units.

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17. (original) The method of claim 16, further comprising the step of: receiving said addressed command by a control unit within said line unit which is different than said corresponding one of said at least two control units and forwarding said addressed command thereto.

18. (new) The method of claim 7, wherein selecting another of said plurality of communication paths for transmitting said control information after said predetermined fault characteristic is detected includes selecting another of said plurality of communication paths for transmitting said control information from said terminal unit.

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